

Practical Uses of Math And Science (PUMAS)

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PUMAS (**poo' • mas**), which stands for Practical Uses of Math And Science, is an on-line journal -- a growing collection of one-page examples illustrating how math and science topics taught in K-12 classes can be used in interesting settings, including everyday life.

Examples may be activities, anecdotes, descriptions of "neat ideas," formal exercises, puzzles, or demonstrations. They are written primarily by scientists, and are intended mainly to help teachers enrich their presentation of math and science topics. Anyone may access the examples via the PUMAS Web Site. All examples are peer-reviewed by at least one scientist with a relevant background, and at least one teacher at an appropriate grade level. Once accepted, the example is a citable reference that can be included in your curriculum vita.

One challenge for PUMAS has been to give contributors quick but accurate insight into the skills and abilities of students at different grade levels, and to inform contributors of the topics typically covered. To make these connections, we provide:

- (1) A one-page table of Math Skills by Grade Group, developed by the Mid-continent Regional Educational Laboratory (McREL)
- (2) A one-page table of Thinking and Learning Characteristics of Young People by Grade Group, contributed by the North Carolina Museum of Life and Science
- (3) A searchable data base containing one-sentence statements of the National Standards and Benchmarks, developed by McREL, and having one or two key words highlighted for easy scanning

The Grade Groups are: Primary [K-2], Upper Elementary [3-5], Middle School [6-8], and High School [9-12]. Contributors are asked to select one or more Benchmarks appropriate to their example. These selections are evaluated as part of the review process; PUMAS users can search for examples by benchmark label, as well as grade level, subject keywords, author, and title.

Employing the Benchmarks in this way, PUMAS asks contributors to offer what they are best able to, their knowledge and experience with the content, while making the minimum effort needed to target their material appropriately. The users, primarily teachers, can scan through the relevant examples, and develop their own ideas about how to use the material in the classroom. This puts the job of "integration into the lesson plan" on the teacher, who is in the best position to judge the students' needs, abilities, and interests.

Want to participate? You might have a look at the examples already in the PUMAS collection. We need scientist, engineers, and pre-college teachers at all grade levels to volunteer for the pool of PUMAS reviewers. And we are always looking for good examples of the Practical Uses of Math And Science.

The PUMAS Web Site: <http://pumas.jpl.nasa.gov>